AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior listings in the application.

1.   (currently amended) A method for monitoring the availability of resources in a network, comprising the computer-implemented steps of:

receiving an activity announcement packet from a node in the network;

determining that the node is potentially inactive if no successive activity announcement packet is received from the node within a specified first time period;

determining that the node is inactive if no successive activity announcement packet is received from the node within a specified second time period; and

detecting that the node or a connection to the node is active if an activity announcement packet is received from the node within the specified first time period;

<u>wherein the activity announcement packet does not require a response</u>.

2.   (original) A method as recited in Claim 1, wherein the determining steps comprise the steps of:

initiating a first timer when the activity announcement packet is received from the node; and

initiating a second timer if no activity announcement packet from the node is received again within expiration of the first timer.

3.   (original) A method as recited in Claim 1, further comprising the steps of:

sending an activity verification packet to a node that has been determined to be inactive;

determining that the node is active if a response packet from the node is received within expiration of a specified verification timer.

4.   (original) A method as recited in Claim 2, wherein a first time duration associated with the first timer and a second time duration associated with the second timer are configurable.

5.   (original) A method as recited in Claim 1, wherein the specified first time and the specified second time are configurable.

6. (cancelled)

7. (original) A method as recited in Claim 1, further comprising the step of tracking nodes from which activity announcement packets have been received by an index comprising address and connection status information for each such node.

8. (original) A method as recited in Claim 7, further comprising the step of displaying, in a management application, the connection status of the nodes that are tracked in the index.

9. (original) A method as recited in Claim 8, further comprising the step of periodically removing from the index entries for nodes that have remained inactive for a specified amount of time.

10. (original) A method as recited in Claim 1, wherein each activity announcement packet includes the Internet Protocol (IP) address of the node from which the activity announcement packet originated.

11. (original) A method as recited in Claim 1, further comprising the step of receiving network performance data, relating to the node, in association with the activity announcement packet.

12. (currently amended) A method of monitoring the availability of network resources, comprising the computer-implemented steps of:

    sending an activity announcement packet to a specified destination at a regular, configurable interval;

    sending network performance data with the activity announcement packet;

    wherein the activity announcement packet includes an Internet Protocol (IP) address of a node from which the activity announcement packet originated; and

    detecting that the node or a connection to the node is active if an activity announcement packet is received from the node within the specified first time period;

    wherein the activity announcement packet does not require a response.

13. (cancelled)

14. (original) A method as recited in Claim 12, wherein the activity announcement packet is provided for determining that the node is potentially inactive if no successive activity announcement packet is received from the node within a specified first time

period, and for determining that the node is inactive if no successive activity announcement packet is received from the node within a specified second time period.

15. (currently amended) A method for monitoring the availability of remote sites in a virtual private network (VPN), comprising the computer-implemented steps of:

receiving an activity announcement packet from a router in the VPN;

determining that the router is potentially inactive if no successive activity announcement packet is received from the router within a specified first time period;

determining that the node is inactive if no successive activity announcement packet is received from the router within a specified second time period; and

detecting that the router and the connection to the router is active if an activity announcement packet is received from said router within the specified first time period or within the specified second time period;

wherein the activity announcement packet does nor require a response.

16. (original) A method as recited in Claim 15, wherein the determining steps comprise the steps of:

initiating a first timer when the activity announcement packet is received from the router; and

initiating a second timer if no activity announcement packet from the router is received again within expiration of the first timer.

17. (original) A method as recited in Claim 16, wherein the first timer and second timer are configurable.

18. (original) A method as recited in Claim 16, further comprising the step of determining that the router and the connection to said router is inactive if no activity announcement packet from said router is received after the second timer expires.

19. (original) A method as recited in Claim 16, further comprising the step of determining that the router and the connection to said router is possibly inactive if no activity announcement packet from said router is received after the first timer expires.

20. (cancelled)

21. (original) A method as recited in Claim 15, further comprising the step of tracking the routers from which activity announcement packets have been received by maintaining an index comprising an address and connection status information for each such router.

22. (original) A method as recited in Claim 21, further comprising the step of displaying, in a management application, the connection status information for the routers that are tracked in the index.

23. (original) A method as recited in Claim 15, wherein the steps of the method are performed by a network management agent executed by a designated router in the network.

24. (original) A method as recited in Claim 15, wherein the steps of the method are performed by a network management agent executed by the router.

25. (original) A method as recited in Claim 15, further comprising the step of receiving network performance data, relating to the router, in association with the activity announcement packet.

26. (currently amended) An apparatus for monitoring the availability of network resources, comprising:

means for receiving an activity announcement packet from a node in the network;

means for determining that the node is potentially inactive if no successive activity announcement packet is received from the node within a specified first time period;

means for determining that the node is inactive if no successive activity announcement packet is received from the node within a specified second time period; and

means for determining that the node or a connection to the node is active if an activity announcement packet is received from the node within the specified first time period; wherein the activity announcement packet does not require a response.

27. (original) An apparatus as recited in Claim 26, wherein the determining means comprise:

means for initiating a first timer when the activity announcement packet is received from the node; and

means for initiating a second timer if no activity announcement packet from the node
is received again within expiration of the first timer.

28. (original) An apparatus as recited in Claim 27, wherein a first time duration
associated with the first timer and a second time duration associated with the second
timer are configurable.

29. (original) An apparatus as recited in Claim 26, wherein the specified first time and the
specified second time are configurable.

30. (original) An apparatus as recited in Claim 26, further comprising means for
determining that the node or a connection to the node is active if an activity
announcement packet is received from the node within the specified first time period.

31. (original) An apparatus as recited in Claim 26, further comprising means for tracking
nodes from which activity announcement packets have been received by an index
comprising address and connection status information for each such node.

32. (original) An apparatus as recited in Claim 31, further comprising means for
displaying, in a management application, the connection status of the nodes that are
tracked in the index.

33. (original) An apparatus as recited in Claim 32, further comprising means for
periodically removing from the index entries for nodes that have remained inactive
for a specified amount of time.

34. (original) An apparatus as recited in Claim 26, wherein each activity announcement
packet includes the Internet Protocol (IP) address of the node from which the activity
announcement packet originated.

35. (original) An apparatus as recited in Claim 26, further comprising means for
receiving network performance data, relating to the node, in association with the
activity announcement packet.

36. (currently amended) An apparatus for monitoring the availability of network
resources, comprising;

a processor;

one or more stored sequences of instructions that are accessible to the processor and
which, when executed by the processor, cause the processor to carry out the
steps of:

receiving an activity announcement packet from a node in the network;

determining that the node is potentially inactive if no successive activity
announcement packet is received from the node within a specified first time
period;

determining that the node is inactive if no successive activity announcement packet is
received from the node within a specified second time period; and

detecting that the node or a connection to the node is active if an activity
announcement packet is received from the node within the specified first time
period;

wherein the activity announcement packet does not require a response.

37.   (original) An apparatus as recited in Claim 36, wherein the determining steps
comprise the steps of:

initiating a first timer when the activity announcement packet is received from the
node; and

initiating a second timer if no activity announcement packet from the node is received
again within expiration of the first timer.

38.   (original) An apparatus as recited in Claim 37, wherein a first time duration
associated with the first timer and a second time duration associated with the second
timer are configurable.

39.   (original) An apparatus as recited in Claim 36, wherein the specified first time and the
specified second time are configurable.

40.   (cancelled)

41.   (original) An apparatus as recited in Claim 36, further comprising the step of tracking
nodes from which activity announcement packets have been received by an index
comprising address and connection status information for each such node.

42.   (original) An apparatus as recited in Claim 41, further comprising the step of
displaying, in a management application, the connection status of the nodes that are
tracked in the index.

43.   (original) An apparatus as recited in Claim 42, further comprising the step of
periodically removing from the index entries for nodes that have remained inactive
for a specified amount of time.

44.　(original) An apparatus as recited in Claim 36, wherein each activity announcement packet includes the Internet Protocol (IP) address of the node from which the activity announcement packet originated.

45.　(original) An apparatus as recited in Claim 36, further comprising the step of receiving network performance data, relating to the node, in association with the activity announcement packet.

46.　(currently amended) A computer-readable storage medium carrying one or more sequences of instructions for monitoring the availability of network resources, wherein the execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:

receiving an activity announcement packet from a node in the network;

determining that the node is potentially inactive if no successive activity announcement packet is received from the node within a specified first time period;

determining that the node is inactive if no successive activity announcement packet is received from the node within a specified second time period; and

detecting that the node or a connection to the node is active if an activity announcement packet is received from the node within the specified first time period:

wherein the activity announcement packet does not require a response.

47.　(currently amended) A computer-readable storage medium as recited in Claim 46, wherein the determining steps comprise the steps of:

initiating a first timer when the activity announcement packet is received from the node; and

initiating a second timer if no activity announcement packet from the node is received again within expiration of the first timer.

48.　(currently amended) A computer-readable storage medium as recited in Claim 47, wherein a first time duration associated with the first timer and a second time duration associated with the second timer are configurable.

49.　(currently amended) A computer-readable storage medium as recited in Claim 46, wherein the specified first time and the specified second time are configurable.

50.   (cancelled)

51.   (currently amended) A computer-readable storage medium as recited in Claim 46, further comprising the step of tracking nodes from which activity announcement packets have been received by an index comprising address and connection status information for each such node.

52.   (currently amended) A computer-readable storage medium as recited in Claim 51, further comprising the step of displaying, in a management application, the connection status of the nodes that are tracked in the index.

53.   (currently amended) A computer-readable storage medium as recited in Claim 52, further comprising the step of periodically removing from the index entries for nodes that have remained inactive for a specified amount of time.

54.   (currently amended) A computer-readable storage medium as recited in Claim 46, wherein each activity announcement packet includes the Internet Protocol (IP) address of the node from which the activity announcement packet originated.

55.   (currently amended) A computer-readable storage medium as recited in Claim 46, further comprising the step of receiving network performance data, relating to the node, in association with the activity announcement packet.

56.   (previously presented) A method as recited in Claim 1, further comprising: configuring a destination address to which a node sends the activity announcement packets.

57.   (previously presented) A method as recited in Claim 1, further comprising: configuring an interval by which a node sends successive activity announcement packets.

58.   (previously presented) A method as recited in Claim 1, further comprising: formatting the activity announcement packets in a proprietary manner.

59.   (previously presented) A method as recited in Claim 1, further comprising: authenticating the activity announcement packets.

60.   (previously presented) A method as recited in Claim 2, further comprising: resetting the first and second timers.

61.   (previously presented) A method for monitoring the availability of resources in a network, comprising the computer-implemented steps of:

receiving an activity announcement packet from a node in the network;

determining that the node is potentially inactive if no successive activity announcement packet is received from the node within a specified first time period;

determining that the node is inactive if no successive activity announcement packet is received from the node within a specified second time period; and

tracking nodes from which activity announcement packets have been received by an index comprising address and connection status information for each such node.